

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS.

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.

CLAIMS

What is claimed is:

- 1 1. In a video source device, a method comprising:
 - 2 generating a session key for a transmission session within which a multi-
 - 3 frame video content is to be transmitted to a video sink device; and
 - 4 generating a successive number of frame keys, using at least the session
 - 5 key, to facilitate ciphering of corresponding frames of the multi-frame video content
 - 6 for transmission to the video sink device.
- 1 2. The method of claim 1, wherein said generating of successive frame keys
- 2 comprises generating at each vertical blanking interval of said multi-frame video
- 3 content, a frame key for ciphering a frame of said multi-frame video content.
- 1 3. The method of claim 2, wherein said method further comprises generating a
- 2 pseudo random bit sequence for each frame, using at least the corresponding frame
- 3 key, for ciphering the particular frame of said multi-frame video content.
- 1 4. The method of claim 3, wherein each of said generating of a pseudo random
- 2 bit sequence using a corresponding frame key comprises successive modifications
- 3 of the corresponding frame key.
- 1 5. The method of claim 4, wherein said successive modifications of the
- 2 corresponding frame key are performed at horizontal blanking intervals of the frame.

1 6. The method of claim 3, wherein said method further comprises generating an
2 initial pseudo random bit sequence using at least the session key, and deriving an
3 initial pseudo random number from the initial pseudo random bit sequence to be
4 used with a first frame key to generate a first pseudo random bit sequence to cipher
5 a first frame.

1 7. The method of claim 3, wherein each of said generating of a pseudo random
2 bit sequence comprises generating sufficient number of pseudo random bits for
3 ciphering a pixel on a bit-wise basis each clock.

1 8. In a video source device, a method comprising:
2 generating a frame key for each frame of a multi-frame video content; and
3 generating a pseudo random bit sequence for each of the corresponding
4 frames, using at least the corresponding frame key, for ciphering the video content.

1 9. The method of claim 8, wherein said generating of a frame key for each
2 frame comprises generating one frame key at each vertical blanking interval of said
3 multi-frame video content.

1 10. The method of claim 8, wherein said method further comprises generating an
2 initial pseudo random bit sequence, deriving an initial pseudo random number from
3 the initial pseudo random bit sequence to be used with the first frame key to
4 generate a first pseudo random bit sequence to cipher a first frame.

1 11. The method of claim 8, wherein each of said generating of a pseudo random
2 bit sequence using a corresponding frame key comprises successive modifications
3 of the corresponding frame key at horizontal blanking intervals of the frame.

1 12. In a video source device, a method comprising:
2 generating a frame key at each vertical blanking interval of a multi-frame
3 video content; and
4 generating a pseudo random bit sequence for each frame of said multi-frame
5 video content, using at least the corresponding frame key for ciphering the particular
6 frame, with generation of each pseudo random bit sequence including successive
7 modifications of the corresponding frame key at horizontal blanking intervals of the
8 corresponding frame.

1 13. An apparatus comprising:
2 a block cipher to generate a session key for a transmission session within
3 which a multi-frame video content is to be transmitted to the video sink device, and
4 to generate a successive number of frame keys, using the session key, for
5 corresponding frames of said multi-frame video content; and
6 a stream cipher coupled to the block cipher to generate a pseudo random bit
7 sequence for each frame, using at least the corresponding frame key, for ciphering
8 the particular frame of said multi-frame video content for transmission.

1 14. The apparatus of claim 13, wherein the stream cipher comprises a register to
2 successively store a frame key associated with each frame.

1 15. The apparatus of claim 14, wherein the stream cipher further comprises a
2 **stream key section** coupled to the register to be programmed with the **same** frame
3 key, to generate first data bits to successively modify the register stored **frame key**
4 to facilitate generation of the pseudo random bit sequence for the frame.

1 16. The apparatus of claim 14, wherein the stream cipher further comprises a
2 first function block coupled to the register to successively transform a stored frame
3 key and a second function block coupled to the register to generate a pseudo
4 random bit sequence for the corresponding frame using a selected subset of each of
5 the transformed states of the frame key.

1 17. The apparatus of claim 13, wherein the block cipher comprises a first and a
2 second register to store a first and a second value, and a function block coupled to
3 the first and second registers to transform the stored first and second values, with a
4 selected one of the transformed first and second values being the session key or a
5 frame key.

1 18. The apparatus of claim 17, wherein the block cipher is an integral part of said
2 stream cipher.

1 19. In a video sink device, a method comprising:
2 generating a session key for a reception session within which a multi-frame
3 video content is to be received from a video source device; and
4 generating a successive number of frame keys, using at least the session
5 key, to facilitate deciphering of corresponding frames of the multi-frame video
6 content received from the video source device.

1 20. The method of claim 19, wherein said generating of successive frame keys
2 comprises generating at each vertical blanking interval of said multi-frame video
3 content, a frame key for deciphering a frame of said multi-frame video content.

1 21. The method of claim 20, wherein said method further comprises generating a
2 pseudo random bit sequence for each frame, using at least the corresponding frame
3 key, for deciphering the particular frame of said multi-frame video content.

1 22. The method of claim 21, wherein each of said generating of a pseudo
2 random bit sequence using a corresponding frame key comprises successive
3 modifications of the frame key.

1 23. The method of claim 22, wherein said successive modifications are
2 performed at horizontal blanking intervals of the frame.

1 24. The method of claim 21, wherein said method further comprises generating
2 an initial pseudo random bit sequence using at least the session key, and deriving
3 an initial pseudo random number from the initial pseudo random bit sequence to be
4 used with the first frame key to generate a first pseudo random bit sequence to
5 cipher a first frame.

1 25. The method of claim 21, wherein each of said generating of a pseudo
2 random bit sequence comprises generating sufficient number of pseudo random bits
3 for deciphering a pixel on a bit-wise basis each clock.

- 1 26. In a video sink device, a method comprising:
 - 2 generating a frame key for each frame of a multi-frame video content
 - 3 received from a video source device; and
 - 4 generating a pseudo random bit sequence for each of the corresponding
 - 5 frames, using at least the corresponding frame key, for ciphering the video content.
- 1 27. The method of claim 26, wherein said generating of a frame key for each
- 2 frame comprises generating one frame key at each vertical blanking interval of said
- 3 multi-frame video content.
- 1 28. The method of claim 26, wherein said method further comprises generating
- 2 an initial pseudo random bit sequence, deriving an initial pseudo random number
- 3 from the initial pseudo random bit sequence to be used with the first frame key to
- 4 generate a first pseudo random bit sequence to cipher a first frame.
- 1 29. The method of claim 28, wherein each of said generating of a pseudo
- 2 random bit sequence comprises successively modifying the frame key at horizontal
- 3 blanking intervals of the frame.
- 1 30. In a video sink device, a method comprising:
 - 2 generating a frame key at each vertical blanking interval of a multi-frame
 - 3 video content to be received from a video source device; and
 - 4 generating a pseudo random bit sequence for each frame of said multi-frame
 - 5 video content, using at least the corresponding frame key and a pseudo random
 - 6 number, for ciphering the particular frame, with generation of each pseudo random
 - 7 bit sequence including successive modifications of the corresponding pseudo

8 random using using the corresponding frame key at horizontal blanking intervals of
9 the corresponding frame.

1 31. An apparatus comprising:

2 a block cipher to generate a session key for a transmission session within
3 which a multi-frame video content is to be received from a video sink device, and to
4 generate a successive number of frame keys; using the session key, for
5 corresponding frames of said multi-frame video content; and

6 a stream cipher coupled to the block cipher to generate a pseudo random bit
7 sequence for each frame, using at least the corresponding frame key, for
8 deciphering the particular frame of said multi-frame video content.

1 32. The apparatus of claim 31, wherein the stream cipher comprises a register to
2 successively store a frame key associated with each frame.

1 33. The apparatus of claim 32, wherein the stream cipher further comprises a
2 stream key section coupled to the register to be programmed with a frame key
3 associated with the same frame, to generate first data bits to successively modify
4 the register stored frame key to facilitate generation of the pseudo random bit
5 sequence for the frame.

1 34. The apparatus of claim 32, wherein the stream cipher further comprises a
2 first function block coupled to the register to successively transform a stored frame
3 key, and a second function block coupled to the register to generate the pseudo
4 random bit sequence for the corresponding frame using a selected subset of each of
5 the transformed states of the frame key.

1 35. The apparatus of claim 31, wherein the block cipher comprises a first and a
2 second register to store a first and a second value, and a function block coupled to
3 the first and second registers to successively transform the stored first and second
4 values, with a selected one of the transformed first and second values being the
5 session key or a frame key.

1 36. The apparatus of claim 35, wherein the block cipher is an integral part of said
2 stream cipher.